

REMARKS

By this Amendment, claims 33-46 and 55-59 have been amended, claims 32 and 48-52 have been cancelled, and claims 60-65 have been added. Thus, claims 33-46 and 55-65 are pending in this application. Reexamination and reconsideration of the application are respectfully requested.

The specification has been carefully reviewed and revised to make grammatical and idiomatic improvements in order to aid the Examiner in further consideration of the application. The amendments to the specification introduce no new matter.

The Office Action, on page 2, rejects claims 32, 40 and 41 under 35 U.S.C. §103(a) over U.S. Patent Application Pub. No. 2004/0086143 A1 to Espiritu in view of WO 2002/35883 to Ikeda et al. (hereinafter "Ikeda"). The Office Action, on page 4, rejects claims 33 under 35 U.S.C. §103(a) over Espiritu in view of Ikeda and further in view of U.S. Patent No. 5,371,805 to Saeki et al. The Office Action, on page 5, rejects claims 34, 39, 46, 48 and 55 under 35 U.S.C. §103(a) over Espiritu in view of Ikeda and further in view of JP-A-05-122791 to Koura et al. and JP-A-58221597 to Saeki et al. The Office Action, on page 11, rejects claim 35 under 35 U.S.C. §103(a) over Espiritu in view of Ikeda, Koura et al. and Saeki et al. and further in view of JP-A-06-125594 to Sumiyama. The Office Action, on page 11, rejects claims 36 and 38 under 35 U.S.C. §103(a) over Espiritu in view of Ikeda, Koura et al. and Saeki et al. and further in view of U.S. Patent Application Pub. No. 2003/0068064 A1 to Czerwinski. The Office Action, on page 12, rejects claim 37 under 35 U.S.C. §103(a) over Espiritu in view of Ikeda and Koura et al. and further in view of U.S. Patent No. 6,611,604 to Irby et al. The Office Action, on page 13, rejects claim 42 under 35 U.S.C. §103(a) over Espiritu and Ikeda in view of Sumiyama. The Office Action, on page 14, rejects claims 43 and 45 under 35 U.S.C. §103(a) over Espiritu and Ikeda in view of Czerwinski. The Office Action, on page 15, rejects claim 44 under 35 U.S.C. §103(a) over Espiritu and Ikeda in view of Irby. The Office Action, on page 15, rejects claims 49 and 56 under 35 U.S.C. §103(a) over U.S. Patent No. 5,371,805 to Saeki et al. in view of Ikeda. The Office Action, on page 17, rejects claims 50 and 57 under 35 U.S.C. §103(a) over Sumiyama in view of Ikeda. The Office Action, on page 17, rejects claims 51, 52, 58 and 59 under 35 U.S.C.

§103(a) over Czerwinski in view of Ikeda. These rejections are believed moot in view of the cancellation of independent claims 32 and 48-52.

With exemplary reference to present drawing Figures 2 and 5, new independent claim 60 sets forth a loudspeaker comprising: a magnetic circuit 6; a frame 5 connected to the magnetic circuit 6; a voice coil 3 that is positioned within a magnetic gap of the magnetic circuit 6; an edge member 1 that includes an inner peripheral portion 12, an arc portion 11 and an outer peripheral portion 13, the inner peripheral portion 12 of the edge member 1 extending from the outer peripheral portion 13 of the diaphragm 2 to a radially innermost part of the arc portion 11 and the outer peripheral portion 13 of the edge member 1 extending from a frame 5 to a radially outermost part of the arc portion 11; a diaphragm 2 that includes an outer peripheral portion 13 that is bonded to the frame 5 via the edge member 1, and an inner peripheral portion 12 that is bonded to the voice coil 3; the edge member 1 being a separate member relative to the diaphragm 2 and being bonded thereto; the edge member 1 comprising a foamed layer, the foamed layer being made of a foamed resin that includes both an independent foam 17a and a continuous foam 17b; a thickness of a sectional shape of the inner peripheral portion of the edge member being thinner than a thickness of a sectional shape of the outer peripheral portion of the edge member (see, e.g., Figs. 3-5); in a sectional view the inner peripheral portion and the outer peripheral portion are straight (see, e.g., Figs. 3-5); and the radially innermost part of the arc portion having a higher density than the radially outermost part of the arc portion.

Thus, claim 60 now specifically requires that an edge member 1 includes an inner peripheral portion 12, an arc portion 11 and an outer peripheral portion 13, the inner peripheral portion 12 of the edge member 1 extending from the outer peripheral portion of the diaphragm 2 to a radially innermost part of the arc portion and the outer peripheral portion 13 of the edge member 1 extending from the frame 5 to a radially outermost part of the arc portion 11, and the radially innermost part of the arc portion 11 having a higher density than the radially outermost part of the arc portion. As described at lines 9-14 on page 6 of the original specification, providing an edge member that includes an arc portion that has a higher density at the radially innermost part of the arc portion than the density at the radially outermost part of the arc portion

prevents a decrease in strength of the thinned inner peripheral portion. The combination of Espiritu and Ikeda would not have suggested these features.

For example, Espiritu teaches a speaker that includes a surround 312 that connects the diaphragm 302 of the speaker to the frame 308 of the speaker. As shown in the cross sectional view in Fig. 8, the surround 312 comprises a straight portion having a first end attached to the diaphragm 302 and a second end attached to an arc portion, the end of the arc portion not attached to the straight portion being attached to the frame 308 of the loudspeaker. Ikeda merely discloses a speaker edge 7a that includes an arc 115 that has thin basal ends 7c (see, e.g., col. 11, lines 45-50 and Figs. 11 and 14). As shown in Fig. 11 of Ikeda, each of the thin basal ends 7c are formed at opposite ends of the arc 115. More specifically, one of the thin basal ends 7c is formed at a radially innermost part of the arc 115 and the other thin basal end is formed at a radially outermost part of the arc 115. Ikeda teaches only that the density at the thin basal ends 7c is higher than those of the adjacent remaining thin or thicker regions (see, e.g., col. 11, lines 45-50). Ikeda does not teach that the density of the thin basal end 7c formed at the radially innermost part of the arc 115 is higher than the density of the thin basal end 7c formed at the radially outermost part of the arc 115, or vice versa. Thus, in contrast to the present invention as specifically required by claim 60, the combination of Espiritu and Ikeda would at most have suggested a loudspeaker that includes a portion having a first end attached to a diaphragm and a second end attached to an arc portion, the end of the arc portion not attached to the straight portion being attached to the frame of the loudspeaker, and the density at the radially innermost part of the thin arc portion, i.e., the part of the thin arc portion that is connected to the diaphragm being the same as the density at the radially outermost part of the thin arc portion, i.e., the part of the thin arc portion that is connected to the frame.

Accordingly, for at least the reasons discussed above, the combination of Espiritu and Ikeda would not have suggested an edge member that includes an inner peripheral portion, an arc portion and an outer peripheral portion, the inner peripheral portion of the edge member extending from the outer peripheral portion of the diaphragm to a radially innermost part of the arc portion and the outer peripheral portion of the edge member extending from the frame to a

radially outermost part of the arc portion, and the radially innermost part of the arc portion having a higher density than the radially outermost part of the arc portion as required by claim 60. Further, none of the other variously applied references remedy the deficiencies of Espiritu and Ikeda. Thus, it is respectfully submitted that claim 60 is clearly allowable over the prior art of record.

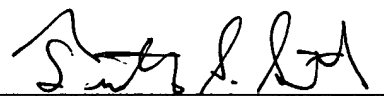
Like claim 60, independent claims 61-65 also recite that the edge includes an inner peripheral portion, an arc portion and an outer peripheral portion, and that the edge is defined to indicate that a radially innermost part of the arc portion has a higher density than a radially outermost part of the arc portion. Thus, for reasons similar to those discussed above with respect to claim 60, independent claims 61-65 also are clearly allowable over the prior art of record. Further, claims 33-46 and 55-59 also are allowable by virtue of their dependencies.

In view of the foregoing, it is respectfully submitted that the present application is in condition for allowance and an early Notice of Allowance is earnestly solicited.

If after reviewing this Amendment, the Examiner believes that any issues remain which must be resolved before the application can be passed to issue, the Examiner is invited to contact the Applicants' undersigned representative by telephone to resolve such issues.

Respectfully submitted,

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